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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:

Said Karbassi, *et al.*

Serial No.: 09/634,507

Filed: August 9, 2000

For: **Flow Sensor Package**

Group Art Unit: 2855

Examiner: L. Martir

Attorney Docket: M10-25086

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June 14, 2002

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RESPONSE TO FINAL OFFICE ACTION

Commissioner for Patents
Washington, DC 20231

Sir:

REMARKS

Claims 1-4, 6, 7, 9, 11-24 are pending in the application.

In the Final Office Action, the Examiner rejected independent claims 1, 11, and 20 under 35 U.S.C. §102(b) as being anticipated by the Frick patent.

Independent claim 1 is directed to a flow sensor package having a housing, a sensing element, a restriction, and a seal. The housing has an inlet, an outlet, and first and second channels in communication

with the inlet and the outlet. The sensing element is in the first channel, and the restriction in the second channel. The seal engages the sensing element so as to prevent flow of a fluid past the sensing element. The seal has an electrically conductive path from the sensing element to a lead, and the lead is outside of the housing.

By contrast, the Frick patent does not disclose a seal that (i) engages a sensing element, where the sensor element is a first channel that is in fluid communication with the same inlet and output with which the restricted channel is in communication, and (ii) has an electrically conductive path from the sensing element to a lead that is outside of the housing. Specifically, the Frick patent does not disclose a seal that engages a sensing element in a first channel as defined in the independent claim 1 and that has a conductive path to a lead outside of the housing containing the first channel.

While the Examiner asserts that the Frick patent discloses such a seal, the Examiner does not point to this seal in the Frick patent by reference number. The Examiner does point to the diaphragms 50 and 52. However, the diaphragms 50 and 52 do not have a conductive path to a lead that is outside of the housing. Moreover, the Examiner points to the electrical leads 74.

However, the Examiner does not show how these leads form an electrically conductive path of a seal. Indeed, the Frick patent discloses no such seal.

Moreover, the Frick patent does disclose a sensing element 66. However, the sensing element 66 does not meet the limitations of independent claim 1 because the sensing element 66 is not in a first channel that is in fluid communication with the same inlet and outlet with which the restricted second channel is in communication. Furthermore, there is no disclosure in the Frick patent of a seal that engages the sensing element 66, that has a conductive path, and that has a conductive path to a lead outside of the housing containing the first channel.

Accordingly, the Frick patent does not anticipate independent claim 1.

Independent claim 11 is directed to a flow sensor package having a housing, an inlet, an outlet, first and second channels in communication with the inlet and the outlet, a sensing element, a restriction, and a seal. The sensing element is in the first channel, and the sensing element has first and second opposing sides. The first side is in fluid communication with the inlet, and the second side is in fluid communication with the outlet. The restriction is in the second channel, and

the restriction permits flow of a liquid through the inlet, the second channel, and the outlet. The seal engages the sensing element so as to prevent flow of the liquid past the sensing element, and the sensing element senses a pressure change across the restriction.

The Frick patent does not disclose a sensing element with first and second opposing sides and that meets the limitations of the claims. The sensing element 66 disclosed in the Frick patent appears to have first and second opposing sides. However, the sensing element 66 is not in a first channel that is in fluid communication with a second channel containing a restriction as required by independent claim 11. Indeed, the channel containing the sensing element 66 is sealed from the restricted channels disclosed in the Frick patent by the diaphragms 50 and 52.

Moreover, if the sensing element 66 disclosed in the Frick patent is chosen as the sensing element recited in independent claim 11, then the Frick patent discloses no seal that engages the sensing element and that prevents flow of the liquid past the sensing element as recited in independent claim 11.

Furthermore, the diaphragms 50 and 52 do not comprise the sensing element of independent claim 11

because they do not have opposing sides in fluid communication with the inlet and outlet.

Accordingly, the Frick patent does not anticipate independent claim 11.

Independent claim 20 is directed to a method of determining flow rate through a flow conductor. The method comprises the steps of creating a pressure change within a housing having only two separate housing portions, sensing the pressure change using a sensing element mounted within the housing, sealing the sensing element within the housing using a seal, and communicating an electrical signal from the sensing element to an exterior of the housing.

With regard to claims 20-23, the Examiner states that the claims exist as an essential constituent of the claimed invention and, therefore, are inherently disclosed by the teachings of Frick. However, as should be clear from the discussion above with respect to independent claim 1 and 11, the Frick patent does not teach the invention of independent claim 20.

Specifically, the pressure change recited in independent claim 20 is created, if at all, within the housing portions 14 and 16 disclosed in the Frick patent. In addition, the sensing of the pressure change, the sealing, and the communicating of an electrical signal

from the sensing element to an exterior of the housing require the housing portion 13. Accordingly, the Frick patent discloses three housing portions to meet the requirements of independent claim 20. However, independent claim 20 is restricted to only two housing portions relative to the steps recited therein.

Therefore, for this reason, the Frick patent does not anticipate independent claim 20.

Moreover, in order for the Frick patent to inherently disclose the invention of independent claim 20, the invention of independent claim 20 must be inevitable from the disclosure of the Frick patent. However, the Examiner does not show or even assert that the invention of independent claim 20 inevitably flows from the disclosure of the Frick patent.

For this reason also, the Frick patent does not anticipate independent claim 20.

Because the Frick patent does not anticipate the independent claims of the present application, the Frick patent likewise does not anticipate the dependent claims of the present application.

In view of the above, it is clear that the claims of the present application patentably distinguish over the art applied by the Examiner. Accordingly,

allowance of these claims and issuance of the above captioned patent application are respectfully requested.

Respectfully submitted,

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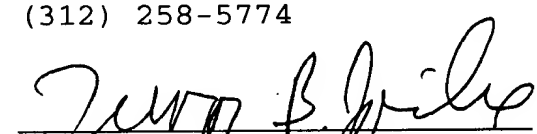
By: 
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